

October 22, 2015

Tom Moe
USS Corporation
P.O. Box 417
Mountain Iron, MN 55768

RE: Project: NPDES-Line 3 Wk1
Pace Project No.: 1254951

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Terri Sabetti, Northeast Technical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

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SAMPLE SUMMARY

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1254951001	WS-003 Thickener Overflow	Water	10/08/15 09:15	10/08/15 12:43
1254951002	WS-002 Scrubber Make-up	Water	10/08/15 09:50	10/08/15 12:43
1254951003	WS-003 Thickener Overflow	Water	10/08/15 09:45	10/08/15 12:43

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SAMPLE ANALYTE COUNT

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1254951001	WS-003 Thickener Overflow	EPA 300.0	DMB	2	PASI-V
1254951002	WS-002 Scrubber Make-up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1254951003	WS-003 Thickener Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V

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ANALYTICAL RESULTS

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

Sample: WS-003 Thickener Overflow		Lab ID: 1254951001		Collected: 10/08/15 09:15		Received: 10/08/15 12:43		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	455	mg/L	5.0	2.5	5		10/19/15 16:22	16887-00-6	
Fluoride	6.1	mg/L	0.50	0.12	5		10/19/15 16:22	16984-48-8	

Sample: WS-002 Scrubber Make-up		Lab ID: 1254951002		Collected: 10/08/15 09:50		Received: 10/08/15 12:43		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Calcium, Dissolved	87.4	mg/L	5.0	0.29	10	10/12/15 15:17	10/13/15 11:55	7440-70-2	
Magnesium, Dissolved	193	mg/L	5.0	0.67	10	10/12/15 15:17	10/13/15 11:55	7439-95-4	
Total Hardness, Dissolved	1010	mg/L	100	50.0	10	10/12/15 15:17	10/13/15 11:55		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	760	mg/L	20.0	0.89	10		10/19/15 17:24	14808-79-8	

Sample: WS-003 Thickener Overflow		Lab ID: 1254951003		Collected: 10/08/15 09:45		Received: 10/08/15 12:43		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Calcium, Dissolved	737	mg/L	5.0	0.29	10	10/12/15 15:17	10/13/15 11:58	7440-70-2	
Magnesium, Dissolved	31.4	mg/L	5.0	0.67	10	10/12/15 15:17	10/13/15 11:58	7439-95-4	
Total Hardness, Dissolved	1970	mg/L	100	50.0	10	10/12/15 15:17	10/13/15 11:58		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	1570	mg/L	40.0	1.8	20		10/19/15 17:45	14808-79-8	

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

QC Batch: MPRP/5984

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1254951002, 1254951003

METHOD BLANK: 256690

Matrix: Water

Associated Lab Samples: 1254951002, 1254951003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.50	0.029	10/13/15 10:53	
Magnesium, Dissolved	mg/L	ND	0.50	0.067	10/13/15 10:53	

LABORATORY CONTROL SAMPLE: 256691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	50	50.8	102	85-115	
Magnesium, Dissolved	mg/L	50	50.6	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256692

256693

Parameter	Units	1254953001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	37.7	50	50	89.6	89.0	104	103	70-130	1	20	
Magnesium, Dissolved	mg/L	26.1	50	50	76.8	76.4	101	101	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 256694

256695

Parameter	Units	1254968001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	12.5	50	50	63.6	63.2	102	101	70-130	1	20	
Magnesium, Dissolved	mg/L	7.3	50	50	58.2	57.3	102	100	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

QC Batch: WETA/14246 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1254951001, 1254951002, 1254951003

METHOD BLANK: 259179 Matrix: Water

Associated Lab Samples: 1254951001, 1254951002, 1254951003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/19/15 16:02	
Fluoride	mg/L	ND	0.10	0.024	10/19/15 16:02	
Sulfate	mg/L	ND	2.0	0.089	10/19/15 16:02	

LABORATORY CONTROL SAMPLE: 259180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.7	105	90-110	
Fluoride	mg/L	5	5.4	108	90-110	
Sulfate	mg/L	50	53.0	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 259181 259182

Parameter	Units	1254951001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	455	250	250	714	713	104	103	90-110	0	20	
Fluoride	mg/L	6.1	25	25	32.8	32.7	106	106	90-110	0	20	
Sulfate	mg/L	1370	2500	2500	3930	3920	103	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 259183 259184

Parameter	Units	1255075001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.4	50	50	58.8	58.9	105	105	90-110	0	20	
Fluoride	mg/L	0.12	5	5	5.4	5.4	105	105	90-110	0	20	
Sulfate	mg/L	14.7	50	50	67.2	67.3	105	105	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NPDES-Line 3 Wk1

Pace Project No.: 1254951

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1254951002	WS-002 Scrubber Make-up	EPA 200.7	MPRP/5984	EPA 200.7	ICP/4644
1254951003	WS-003 Thickener Overflow	EPA 200.7	MPRP/5984	EPA 200.7	ICP/4644
1254951001	WS-003 Thickener Overflow	EPA 300.0	WETA/14246		
1254951002	WS-002 Scrubber Make-up	EPA 300.0	WETA/14246		
1254951003	WS-003 Thickener Overflow	EPA 300.0	WETA/14246		

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CHAIN-OF-CUSTODY / An
The Chain-of-Custody is a LEGAL DOCUMENT

W0# : 1254951

Section A Required Client Information: Company: USS Corporation Address: P.O. Box 417 Mountain Iron, MN 55768 Phone: (218) 749-7485 Fax: Requested Due Date:

Section B Required Project Information: Report To: Tom Moe Copy To: Purchase Order #: NPDES-LINE 3 WK1 Project Name: Project #:


Section C Invoice Information: Attention: Company Name: Address: Pace Quote: Heather.zika@pacelabs.com State / Location: City Agency:


PM: HRZ Due Date: 10/22/15 CLIENT: USS CORP 1 of 1

Email: trone@uss.com Phone: (218)749-7485 Fax: Purchase Order #: Project Name: NPDES-LINE 3 Wk1 Requested Due Date: Project #:										Purchase Order #: Page Project Manager: heather.zika@accolabs.com Page Profile #:										Page Quote: State / Location:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample ids must be unique	MATRIX Drinking Water Waste Water Product Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		START		END		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	Y/N	LAB FILTERED: SO4	Lab FILTERED: Ca,Mg,Hard	Cl,F	Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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ADDITIONAL COMMENTS: RE-ENDORSED BY / AFFILIATION: DATE: TIME: ACCEPTED BY / AFFILIATION: DATE: TIME: SAMPLE CONDITIONS: TEMP in C

SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE Signed: 10-8-15

	Document Name:	Document Revised: 23Feb2015
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>VSS Corp.</u>	Project #: WO# : 1254951
		
Courier:	<input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input checked="" type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other:	
Tracking Number:		
Custody Seal on Cooler/Box Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Packing Material:	<input type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input checked="" type="checkbox"/> None <input type="checkbox"/> Other:	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used:	<input checked="" type="checkbox"/> 140792808	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun
Cooler Temp Read °C: <u>5.4</u>	Cooler Temp Corrected °C: <u>5.7</u>	Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Temp should be above freezing to 6°C	Correction Factor: <u>0.3</u>	Date and Initials of Person Examining Contents: <u>CK 12/8/15</u>
Comments:		

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix:	<u>W</u>	
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Decker 390

Date: 10/12/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)